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Patent Application

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Signature: _____ Date: <u>August 10, 2005</u>

Applicant(s): A.D. Baker et al.
Case: 23-2
Serial No.: 09/800,684
Filing Date: March 7, 2001
Group: 2665
Examiner: Lee T. Khuong

Title: Automatic Protocol Version Detection and Call
Processing Reconfiguration in a Communication System

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Sir:

Applicants (hereinafter referred to as "Appellants") hereby appeal the final rejection of claims 1-16 of the above referenced application.

REAL PARTY IN INTEREST

The present application is assigned to Lucent Technologies Inc. The assignee Lucent Technologies Inc. is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals and interferences.

STATUS OF CLAIMS

Claims 1-16 are pending in the present application. Claims 1-16 stand rejected under 35 U.S.C. §103(a) and are appealed.

STATUS OF AMENDMENTS

There have been no amendments filed subsequent to the final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides techniques for automatic protocol version detection and call processing reconfiguration in a communication system (Specification, page 2, lines 25-26).

Claims 1, 8 and 15 provide techniques for configuring a first device of a communication system. A message is received in the first device from a second device of the communication system. It is determined if a protocol version of the message is the same as a protocol version associated with the second device in a memory of the first device. When the protocol version of the message is not the same, it is determined if the protocol version of the message is a known protocol version. The protocol version associated with the second device in the memory of the first device is updated when the protocol version of the message is known. The message is processed at the first device when the protocol version of the message is the same.

By way of example, illustrative embodiments of the invention of claims 1, 8 and 15 are shown in FIGS. 1A and 2A of the drawings. FIG. 1A shows a block diagram of a portion of an exemplary communication system 100 in which the invention is implemented. The system includes a communication switch 102 and a set of N customer premises equipment (CPE) devices 104-i, i = 1, 2, ... N-1, N. Switch 102 communicates with devices 104-i via a user network interface 106. Switch 102 includes processing elements denoted as A and B. Processing element A is a conventional call processing engine. Processing element B is coupled to processing element A and is a version analysis engine, which includes, accesses or is otherwise associated with a system database 110. Switch 102 is configured to analyze control messages on signaling channels between itself and CPE devices 104-i in order to detect and assert a specific version of the UNI signaling

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protocol. FIG. 2A is a flow diagram showing a message processing function implemented in a version analysis engine of a communication system of FIG. 1A.

Advantageously, the invention provides automated signaling protocol determination and corresponding communication system element reconfiguration which allows protocol version updates to be managed efficiently and without the need for manual intervention by a system administrator or technician (Specification, page 3, lines 16-19).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,421,346 to Itoh et al. (hereinafter "Itoh") in view of U.S. Patent No. 6,678,741 to Northcutt et al. (hereinafter "Northcutt").

ARGUMENT

Appellants incorporate by reference herein the disclosures of all previous responses filed in the present application, namely, responses dated October 14, 2004 and June 8, 2005.

A. Claims 1-5, 8-12 and 15

With regard to the rejection of claims 1-16 under 35 U.S.C. §103(a) as being unpatentable over Itoh in view of Northcutt, Appellants submit that the Examiner has failed to establish a *prima facie* case of obviousness, in that the collective teachings of Itoh and Northcutt do not meet the claim limitations, there is no demonstrated motivation for the proposed combination, and there is no reasonable expectation of success.

Appellants initially assert that the collective teachings of Itoh and Northcutt, assuming for purposes of argument that these references are combinable, fail to disclose techniques described in independent claims 1, 8 and 15 of the present invention.

Itoh discloses an ATM switch that accommodates a plurality of protocols. In the Office Action, the Examiner refers to portions of Itoh regarding UNI identification, message analysis, and a memory of the switch in rejecting the independent claims. However, while the message analyzer

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of Itoh analyzes a message from a first terminal by identifying a UNI for the first terminal, with regard to independent claims 1, 8 and 15, Itoh fails to disclose the performance of two separate determination steps: (i) determining if the protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device; and (ii) determining if the protocol version of the at least one message is a known protocol version when the protocol version of the at least one message is not the same.

In response to arguments previously submitted by Appellants, the Examiner contends a message received in terminal A of Itoh and compared to a memory unit 60 of the ATM switch for UNI identification information satisfies limitations (i) and (ii) presented above. Assuming for purposes of argument that this comparison relates to a determination of whether a protocol version of the message is the same as a protocol version in the memory, Itoh fails to disclose a determination of whether the protocol version of the message is a known protocol version when it is determined from the previous step that the protocol versions are not the same.

The Examiner acknowledges that Itoh fails to teach "updating the protocol version associated with the second device when the protocol version of the at least one message is known." However, the Examiner contends that Northcutt discloses those elements in the independent claims of the present invention that are not disclosed in Itoh.

Northcutt discloses a method and apparatus for synchronizing firmware, such as versions of software, associated with a first and a second computer device, such as a server and a client computer. The synchronization of firmware of a second device with firmware of a first device as described in Northcutt, differs significantly from the updating of a message protocol version associated with a second device in a memory of a first device, as described in the independent claims of the present invention. Firmware is not updated in the first and second device of the independent claims of the present invention. Northcutt fails to disclose anything regarding devices and their stored associated message protocol versions and thus, also fails to disclose the two separate determining steps of the independent claims described above.

In response to arguments previously submitted by Appellants, the Examiner contends that Northcutt teaches that a server and a client computer need to have the same protocol version/software version in order to communicate with each other. However, such a disclosure does

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not provide proper support for rejecting a step of updating protocol versions associated with a second device in a memory of the first device, since there is no disclosure of a first device memory that stores protocol versions of a second device. Further, Northcutt discloses updating a firmware version of a first device and provides no disclosure of the updating of a second device protocol version within a first device memory.

Therefore, the collective teachings of Itoh and Northcutt fail to disclose the limitations of independent claims 1, 8 and 15 as described above.

Second, Appellants assert, with respect to claims 1-16, that no motivation exists to combine Itoh and Northcutt in a manner proposed by the Examiner, or to modify their teachings to meet the claim limitations. While both references generally relate to communicating devices, Appellants strongly believe that one ordinarily skilled in the art would not look to the methods of synchronizing firmware described in Northcutt to find inspiration to improve the ATM switch of Itoh, or vice versa. In fact, synchronization of firmware between two communicating devices (Northcutt) appears to teach away from the use of a switch capable of interworking between devices having different UNIs in an ATM network (Itoh).

Appellants assert that Itoh discloses communication techniques in which a switch is utilized to change the protocol version of a message sent between two devices so that it is not necessary for the communicating devices to have the same protocol versions. Thus, while Northcutt and Itoh both disclose techniques for enabling communication between devices that originally have different protocol versions, they present two divergent solutions. Northcutt synchronizes the firmware of the communicating devices without directly affecting message transmission between devices, while Itoh provides a switch that changes the protocol version of a message after transmission, without affecting the firmware of the communicating devices.

The Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination "must be based on objective evidence of record" and that "this precedent has been reinforced in myriad decisions, and cannot be dispensed with." In re Sang-Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that "conclusory statements" by an examiner fail to adequately address the factual question of motivation,

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which is material to patentability and cannot be resolved "on subjective belief and unknown authority." Id. at 1343-1344.

For example, in the final Office Action, in paragraphs 4-5 on page 3, and paragraphs 2-3 on page 4, the Examiner provides the following statements to prove motivation to combine Itoh and Northcutt:

> It would have been obvious . . . to employ the updating of firmware version as taught by Northcutt into Itoh to arrive the claimed invention as specified in claims 1 and 8.
> The suggestion/motivation for doing so would have been to provide a same common protocol in order for the devices to communicate with each other.

and,

> It would have been obvious . . . that the ATM switch 50 would be able to process the communicating message from the terminal A to a terminal B if they both have the same UNI version.
> The suggestion/motivation for doing so would have been to provide an ATM switch capable of interworking between different UNIs in an ATM network.

Appellants submit that these statements of obviousness are conclusory, and based on the type of "subjective belief and unknown authority" that the Federal Circuit has indicated provide insufficient support for an obviousness rejection. The Examiner also fails to identify any objective evidence of record which supports the proposed combination.

Lastly, with respect to claims 1-16, Appellants assert that there is no reasonable expectation of success in achieving the present invention through a combination of Itoh and Northcutt. Contrary to the assertion made by the Examiner in the Office Action, Appellants respectfully submit that Itoh and Northcutt are not combinable since it is not clear how one would combine them to reach the claimed invention. Itoh is directed toward interworking between devices having different UNIs and Northcutt is directed toward device firmware synchronization for interaction via a common protocol. No guidance was provided in the Office Action as to how the two references can be combined to achieve the present invention. However, even if combined, for the sake of argument, they would not achieve the techniques of the claimed invention, as described above.

Appellants assert that dependent claims 2-5 and 9-12 are patentable at least by virtue of their dependency from independent claims 1 and 8. Dependent claims 2-5 and 9-12 also recite patentable subject matter in their own right.

B. Claims 6 and 13

Dependent claims 6 and 13 are patentable at least by virtue of their dependency from independent claims 1 and 8, respectively, and also recite patentable subject matter in their own right.

Dependent claims 6 and 13 recite that the step of determining if a protocol version of the at least one message is the same further comprises the step of determining if an information element identifier extracted from the at least one message is a valid information element identifier for the protocol version associated with the second device in a memory of the first device.

In providing support for the rejection of claims 6 and 13, the Examiner directs Appellants to portions of Itoh disclosing an ATM switch having in its memory UNI identification information, analysis control data and editing control data. Further, Itoh discloses that an ATM switch analyzes the message in a message analyzer, reading out the UNI between the sending terminal and the ATM switch from the UNI identification information. However, Itoh fails to disclose the extraction of an information element identifier from the message and a determination as to whether an information element identifier is valid for a specified protocol version. Thus, the combination of Itoh and Northcutt fails to disclose a first device that determines whether an extracted information element identifier from a message is valid for a protocol version associated with a second device in the memory of the first device.

C. Claims 7 and 14

Dependent claims 7 and 14 are patentable at least by virtue of their dependency from independent claims 1 and 8, respectively, and also recite patentable subject matter in their own right.

Dependent claims 7 and 14 recite that a call processing function of the first device is adjusted so as to provide a feature associated with the particular version of the protocol.

In providing support for the rejection of claim 7, the Examiner directs Appellants to portions of Itoh disclosing a communication sequence, specifically, the reception, identification, translation,

and transmission of a message at the message analyzer. However, Itoh does not disclose the adjustment of a call processing function of the first device. Thus, the combination of Itoh and Northcutt fails to disclose that a call processing function of a first device is adjusted so as to provide a feature associated with the particular version of the protocol. Dependent claim 14 has not been addressed by the Examiner in the final Office Action.
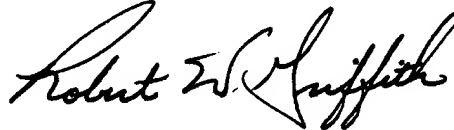
D. Claim 16

Independent claim 16 is patentable for at least the reasons presented above with regard to independent claims 1, 8 and 15, and also recites patentable subject matter in its own right.

Independent claim 16 recites a method for configuring a first device of a communication system. At least one message is received in the first device from a second device of the communication system. It is determined if an information element identifier extracted from the at least one message is a valid information element identifier for a protocol version associated with the second device in a memory of the first device. When the extracted information element identifier is not valid for a protocol version associated with the second device, it is determined if the extracted information element identifier is a valid information element identifier for another protocol version. The protocol version associated with the second device in the memory of the first device is updated when the extracted information element identifier is valid for another protocol version. The message at the first device is processed when the extracted information element identifier is valid for a protocol version associated with the second device.

In providing support for the rejection of claim 16, the Examiner provides the evidence and reasoning used in the rejection of independent claims 1 and 8. However, the Examiner has failed to address the determination of whether an information element identifier extracted from the message is a valid information element identifier for a protocol version as described above with regard to claims 6 and 13. Additionally, the Examiner has failed to address, the determination of whether the extracted information element identifier is a valid information element identifier for another protocol version. The combination of Itoh and Northcutt fails to disclose validity determinations of extracted information element identifiers with regard to protocol versions.

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For at least the reasons given above, Appellants respectfully request withdrawal of the §103(a) rejection of claims 1-16. Appellants believe that claims 1-16 are patentable over Itoh in view of Northcutt. As such, the application is believed to be in condition for allowance, and favorable action is respectfully solicited.

Respectfully submitted,

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CLAIMS APPENDIX

1. A method for configuring a first device of a communication system, the method comprising the steps of:

receiving at least one message in the first device from a second device of the communication system;

determining if a protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device;

determining if the protocol version of the at least one message is a known protocol version when the protocol version of the at least one message is not the same, and updating the protocol version associated with the second device in the memory of the first device when the protocol version of the at least one message is known; and

processing the at least one message at the first device when the protocol version of the at least one message is the same.

2. The method of claim 1 wherein the first device comprises a switch of the communication system.

3. The method of claim 1 wherein the second device comprises a customer premises equipment (CPE) device of the communication system.

4. The method of claim 1 wherein the protocol comprises an asynchronous transfer mode (ATM) user-network interface (UNI) protocol.

5. The method of claim 1 wherein the at least one message analyzed to determine the particular version of the protocol comprises a signaling channel message received over a signaling channel established between the first and second devices.

6. The method of claim 1 wherein the step of determining if a protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device further comprises the step of determining if an information element identifier extracted from the at least one message is a valid information element identifier for the protocol version associated with the second device in a memory of the first device.

7. The method of claim 1 wherein a call processing function of the first device is adjusted so as to provide a feature associated with the particular version of the protocol.

8. An apparatus for use in configuring a first device of a communication system, the apparatus comprising:

a memory;

at least one processor coupled to the memory, associated with the first device and operative to: (i) receive at least one message in the first device from a second device of the communication system; (ii) determine if a protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device; (iii) determine if the protocol version of the at least one message is a known protocol version when the protocol version of the at least one message is not the same, and update the protocol version associated with the second device in the memory of the first device when the protocol version of the at least one message is known; and (iv) process the at least one message at the first device when the protocol version of the at least one message is the same.

9. The apparatus of claim 8 wherein the first device comprises a switch of the communication system.

10. The apparatus of claim 8 wherein the second device comprises a customer premises equipment (CPE) device of the communication system.

11. The apparatus of claim 8 wherein the protocol comprises an asynchronous transfer mode (ATM) user-network interface (UNI) protocol.

12. The apparatus of claim 8 wherein the at least one message analyzed to determine the particular version of the protocol comprises a signaling channel message received over a signaling channel established between the first and second devices.

13. The apparatus of claim 8 wherein the step of determining if a protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device further comprises the step of determining if an information element identifier extracted from the at least one message is a valid information element identifier for the protocol version associated with the second device in a memory of the first device.

14. The apparatus of claim 8 wherein a call processing function of the first device is adjusted so as to provide a feature associated with the particular version of the protocol.

15. A machine-readable medium storing one or more programs for configuring a first device of a communication system, wherein the one or more programs when executed by a processor implement the steps of:

receiving at least one message in the first device from a second device of the communication system;

determining if a protocol version of the at least one message is the same as a protocol version associated with the second device in a memory of the first device;

determining if the protocol version of the at least one message is a known protocol version when the protocol version of the at least one message is not the same, and updating the protocol version associated with the second device in the memory of the first device when the protocol version of the at least one message is known; and

processing the at least one message at the first device when the protocol version of the at least one message is the same.

16. A method for configuring a first device of a communication system, the method comprising the steps of:

receiving at least one message in the first device from a second device of the communication system;

determining if an information element identifier extracted from the at least one message is a valid information element identifier for a protocol version associated with the second device in a memory of the first device;

determining if the extracted information element identifier is a valid information element identifier for another protocol version when the extracted information element identifier is not valid for a protocol version associated with the second device, and updating the protocol version associated with the second device in the memory of the first device when the extracted information element identifier is valid for another protocol version;

processing the message at the first device when the extracted information element identifier is valid for a protocol version associated with the second device.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.